

Dot Plot

The primary use of the dot plot is visualizing intensity values across samples.

We will invoke a dot plot from a gene list child spreadsheet with genes on rows.

- Right-click on the row header of the gene you want to visualize
- Select **Dot Plot** from the pop-up menu (Figure 1)

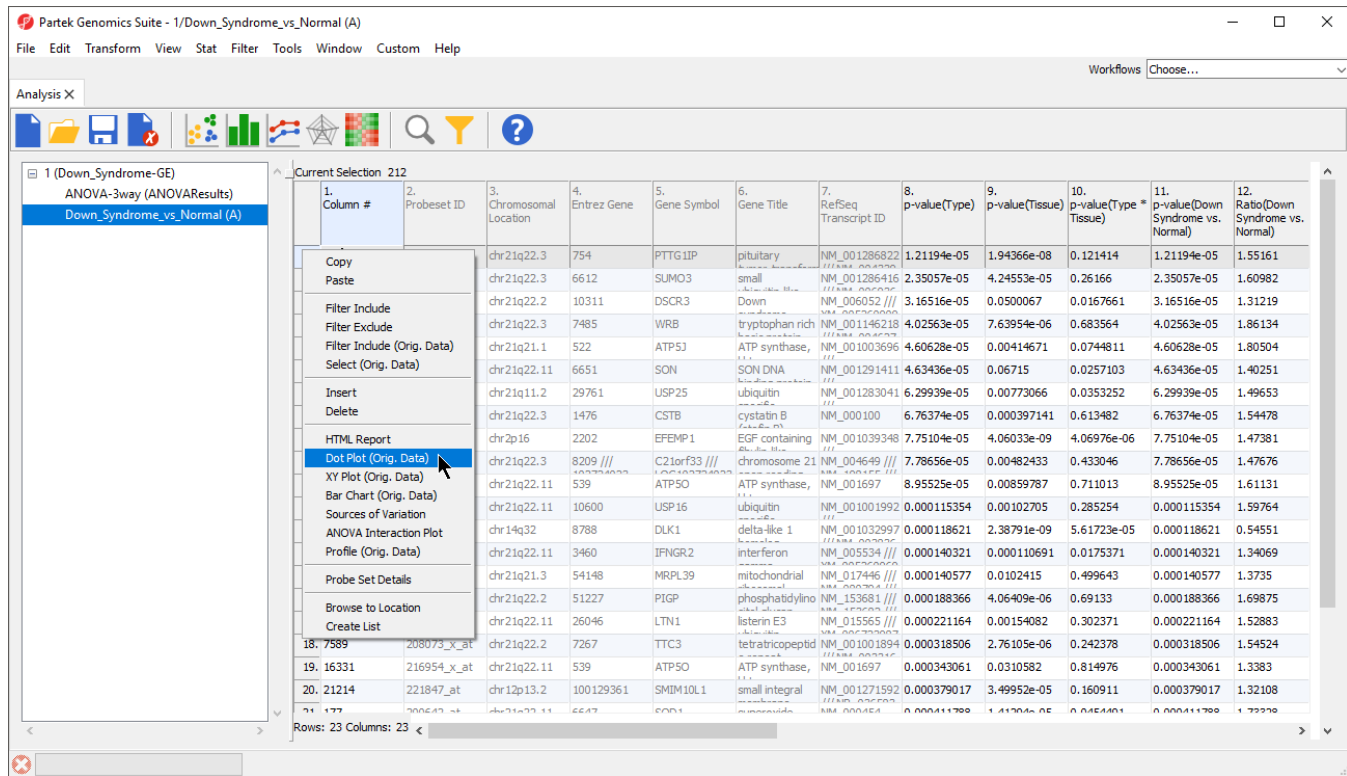


Figure 6. Creating a dot plot of gene intensity values

A dot plot will be displayed in a new tab (Figure 2).



Figure 7. Simple dot plot of a single gene that shows the distribution of intensities across all samples

There are many customizations that can be made to this simple plot.

- Select **Configure Plot** (⚙️) from the plot command bar to launch the *Configure Plot* dialog (Figure 3).

Configure Plot

Configure Plot

Group by: 3. Type Bins: 20 ☐ Categoricals in spreadsheet order

X-Axis: 212 Down_Syndro 1000 ms

Configure Axis

Axis: X

Scaling: linear Log Base (number or e): 10

Range

☒ Real Number ☐ Exponent (Base 10) ☐ Values in Reverse Order

Specify by

☒ Min & Max Min: manual 0 Max: manual 2

☐ Center & Range Center: auto 0 Range: auto 0

OK Cancel

Figure 8. Configuring the data shown on the plot

The *Configure Plot* dialog lets you change how the data is displayed on the plot. We will make a change to illustrate the possibilities.


- Set *Group by* to **4. Tissue** using the drop-down menu

This allows us to group the samples by any categorical attribute. These attributes are specified in the parent spreadsheet.

- Select **OK** to modify the plot

We could also have changed the grouping of samples using the *Group by* drop-down menu above the plot.

The order of the group columns is alphabetical by default, but can be changed to match the spreadsheet order by selecting **Categoricals in spreadsheet order** in the *Configure Plot* dialog (Figure 3).

- Select **Plot Properties** () from the plot command bar to launch the *Plot Properties* dialog (Figure 4)

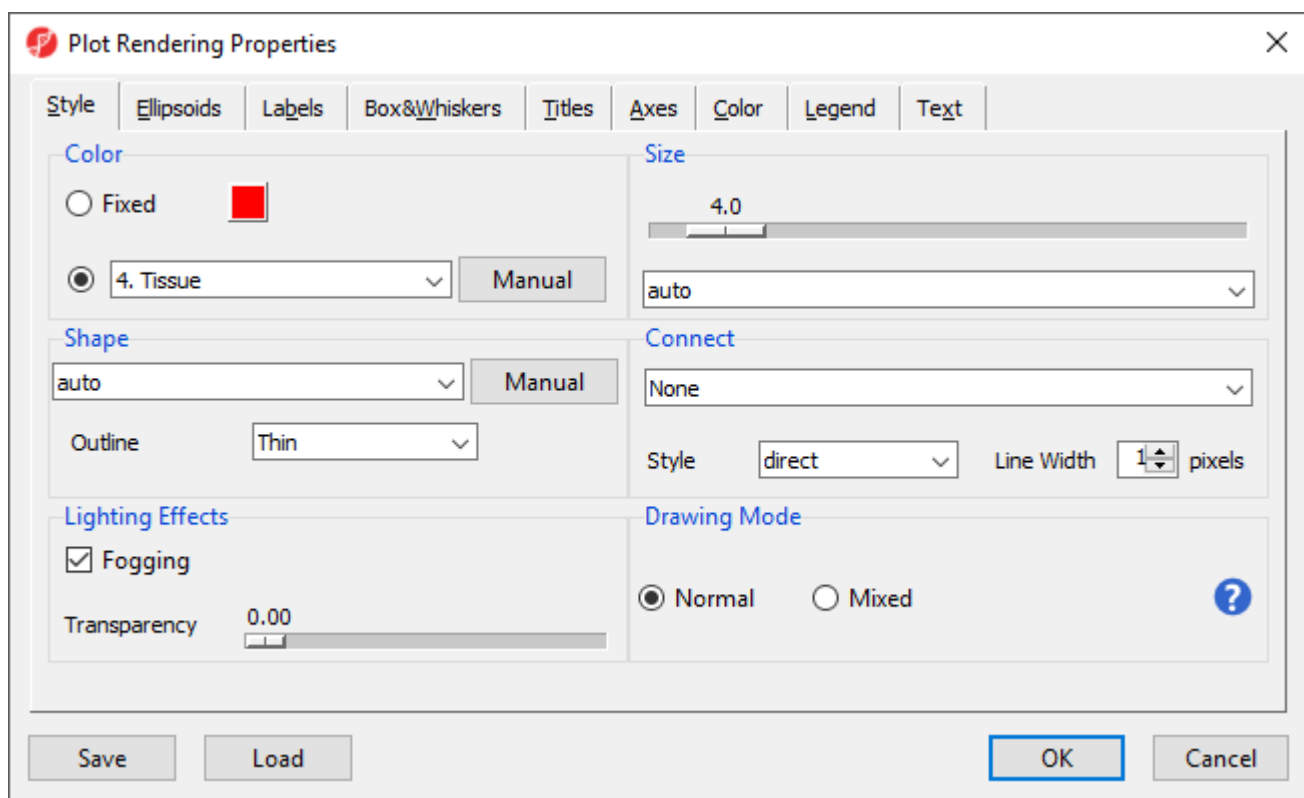


Figure 9. Changing the appearance of a dot plot using the plot properties dialog

The *Plot Properties* dialog lets you change the appearance of the plot. We will make a few changes to illustrate the possibilities.

- Set *Shape* to **3. Type** using the drop-down menu
- Select the **Box&Whiskers** tab
- Set *Box Width* to **15** pixels
- Select the **Titles** tab
- Set *X-Axis* under *Configure Axes Titles* to Tissue
- Select **OK** to modify the plot

Alternately, we should have changed the shapes using the *Shape by* drop-down menu above the plot. The dot plot now shows four columns with thinner box and whisker plots for each and different shapes for different sample types (Figure 5).

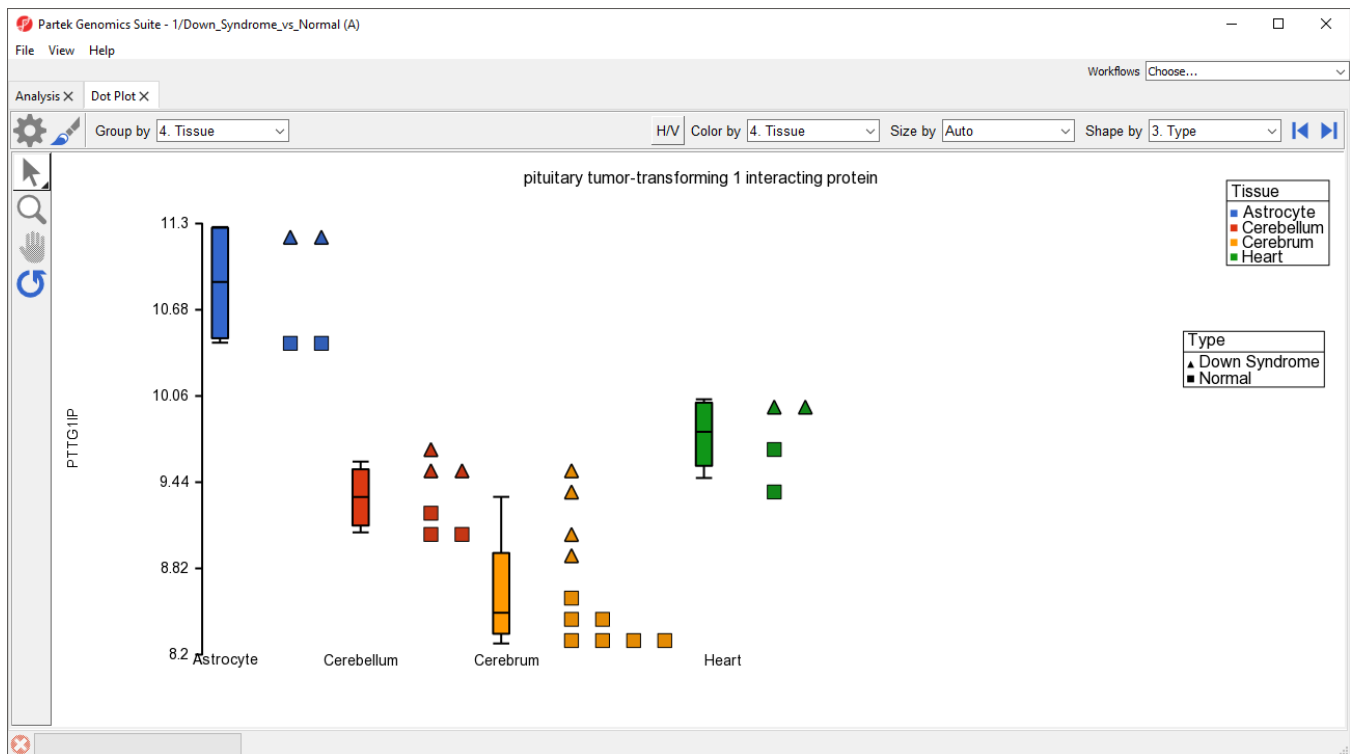





Figure 10. The Dot Plot can be modified to optimally visualize your data

Like many visualizations in Partek Genomics Suite, the dot plot is interactive.

- Select () to activate Selection Mode



Legends can now be dragged and dropped to new locations on the plot. Samples can be selected by left-clicking the sample or left-clicking and dragging a box around samples.

- Select () to activate Zoom Mode

Left clicking on a region will zoom in on it. The zoom level can be reset by selecting ().

- After zooming in, select () to activate Pan Mode

Left-click and drag to move around the plot.

- Select () to move between rows on the source spreadsheet
- Select () to swap the horizontal and vertical axes

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Additional Assistance

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